IBM Docket No. GB9-2000-0034US1

U.S. Appln. No. 09/641,449
Amendment Dated Dec. 19, 2005
Reply to Office Action of Oct. 20, 2005
Docket No. 6169-179

REMARKS/ARGUMENTS

These remarks are made in response to the Final Office Action of October 20, 2005 (Office Action). As this response is timely filed before the expiration of the 3-month shortened statutory period, no fee is believed due.

In the Office Action, Claims 1, 2, 5 and 6 were rejected Under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,615,296 to Stanford, *et al.* (hereinafter Stanford). Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stanford in view of U.S. Patent No. 6,192,344 to Lee, *et al.* (hereinafter Lee).

Applicants have amended independent Claim 1 to emphasize certain aspects of the invention. Dependent Claim 5 have been cancelled. As discussed herein, the claim amendment is fully supported throughout the Specification. (See, e.g., Specification, p. 3, line 32 - p. 4, line 17, and p. 20, lines 20-29.) No new matter has been introduced by the claim amendment.

I. Applicants' Invention

It may be useful to reiterate certain aspects of Applicants' invention prior to addressing the cited references. One embodiment of the invention, typified by Claim 1, as amended, is an interactive voice response (IVR) system. The system can include a plurality of speech technology software modules. At least one of the modules can comprise a speech recognition engine that includes a plurality of different language models. Each different language model can correspond to a different type of voice channel for recognizing speech input from a user. At least one other of the modules can comprise a text-to-speech engine for generating speech output for a user. Still another of the modules can comprise a tone-recognition module for recognizing a plurality of pre-selected tones. (See, e.g., Specification, p. 3, line 32 - p. 4, line 4.)

The system further can include a voice application defining a plurality of interactions between a caller and the plurality of speech technology modules, each

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interaction having a task property and an interaction environment property. Additionally, the system can include a speech technology selection module for selecting, for each interaction, one of the speech technology modules from the plurality of the modules to be used by the application according to the environment property of the interaction.

The environment property, more particularly, can comprise a call-type identifier that indicates when a call is a landline type call, a mobile type call, and an IP telephony type call. A different one of one of the plurality of different language models can be used by the speech recognition engine depending on the call-type identifier. (See, e.g., Specification, p. 4, lines 4-17 and p. 20, lines 20-29.)

An advantage of using a different language model depending on the characteristics of the voice channel is that doing so takes into account the complexities that arise when calls originate in different types of phone networks. For example, Voice over IP, or Internet telephone, typically uses a different voice compression technique than used with other types of telephony. By taking such differences into account, Applicants invention can improve the accuracy and reliability of speech recognition. (Specification, p. 4, lines 6-14.) In contrast to conventional systems, Applicants' invention obviates the need to attach one recognizer for each different language model for every call from each type of telephone. (Specification, p. 4, lines 14-17.)

II. The Claims, As Amended, Define Over The Prior Art

As already noted, independent Claim 1 was rejected as being anticipated by Stanford. Stanford is directed to a continuous speech recognition and voice response system that provides a natural sounding and effective interactive, speech-driven dialogue from a data processing system. (See Col. 3, lines 25-42; see also Abstract.) Applicants respectfully maintain, however, that Stanford does not teach, either expressly or inherently, every feature recited in independent Claim 1, as amended.

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At page 2 of the Office Action, it is stated that Stanford discloses an IVR that includes a plurality of speech technology units and that the modules comprise a speech recognition engine for recognizing speech input from a user as well as at least one module comprising a text-to-speech engine for generating a speech output. Applicants respectfully respond, however, that Stanford does not expressly or inherently teach an IVR system having a plurality of speech technology software modules that includes at least one tone-recognition module for recognizing a plurality of pre-selected tones, as recited in amended independent Claim 1. Indeed, Applicants respectfully submit that Stanford's focus on high-speed context switching to modify an active vocabulary and application of high-speed context switching to modify or activate Audio WAV voice response files, obviates the need for tone recognition as used in Applicants' invention.

Applicants also submit that Stanford does not expressly or inherently teach an IVR system employing a call-type identifier that explicitly indicates when a call is a landline type call, a mobile type call, and an IP telephony type call, as recited in amended independent Claim 1. Applicants further respectfully submit that Stanford does not expressly or inherently teach a speech recognition engine having a plurality of different language models, wherein a different one of the language models is used depending on the call-type identifier.

At page 5 of the Office Action, citing a portion of Stanford, it is stated that Stanford discloses an IVR system the can use a variety of user application programs such as an "executive information systems, a database access via verbal query, a software problem response unit, a telephone answering unit and a restaurant locator;" that is, the "type of application service requested is the 'call type' requested by the user." Applicants respectfully respond, however, that selection of a type of application program is not equivalent to the features recited in independent Claim 1, as amended. Firstly, selecting the type of application program is not the same identifying a call type; that is, it does not

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provide any indication as to whether a call originates from a landline, mobile, or IP telephony network, as recited in amended independent Claim 1.

Secondly, the selecting of a type of application program is unrelated to selecting one of a plurality of different language models. In particular, the selecting of a type of application program is not the same as applying one of a plurality of different language models depending on whether the type of call originates from a landline, mobile, or IP telephony network, as further recited in amended independent Claim 1.

Applicants respectfully maintain, therefore, that Stanford fails to expressly or inherently teach every feature recited in amended independent Claim 1 and that the claim defines over the prior art. Accordingly, Applicants further respectfully maintain that dependent Claims 2-4 and 6, which each depend from Claim 1 while reciting additional features, likewise define over the prior art.

CONCLUSION

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. The Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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